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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/031,840	05/17/2002	Aloys Wobben	970054.412USPC	5749

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EXAMINER	
MENON, KRISHNAN S	

ART UNIT	PAPER NUMBER
1723	

DATE MAILED: 02/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/031,840	WOBBEN, ALOYS
	Examiner	Art Unit
	Krishnan S Menon	1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claims 1-11 are pending.

Drawings

The drawings were received on 12/3/03. These drawings are acceptable.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keefer (US 4,434,056)

Claims 6-10: Keefer teaches a reverse osmosis device for continuous desalting of water comprising a membrane to separate salt water to desalted water and concentrated water (figure 1, abstract), a pressure compensating device (fig 1) having several pistons (189,190,191) to continuously introduce salt water at increasing pressure to the membrane, and transfer the energy from the discharging water, intake chamber in front of piston (fig 1) connected to feed line and the membrane, rear of piston having discharge chamber (fig 1) connected to concentrate water discharge line (249), and a pressure chamber in the rear of the piston (210-212) which are hydraulically connected so as to continuously exert pressure on a part of the piston so as to assist the pressure exerted by the concentrated salt water introduced into the

'discharge chamber' on the piston in the as in claim 6. Controls for the piston devices as in claim 7 (see fig 1,2) so that feed water while being introduced by one piston, concentrate water is discharged from the discharge chamber of the same piston and concentrate water is introduced ion to the discharge chamber of one additional piston (see fig 1,2). Piston devices having controllable intake and discharge valves as in claim 8 (see fig 1), actively controlled valves in the feed and discharge lines (225,229, 205-207) as in claim 9, pressure compensating device has three identical piston devices as in claim 10 (see fig 1) (also see col 4 line 7 – col 5 line 38).

Keefer does not teach using a separate feed pump as in claim 6, but uses the pressure compensating device itself as the pump. However, it would be obvious to one of ordinary skill in the art at the time of invention that a separate feed pump may be used in the Keefer system if the pressure of the incoming feed at line 221 is inadequate (col 5 lines 38-46).

Claim 11: Keefer does not teach that the part of the surface area of the piston rear side on which the pressure prevails (by design) in the discharge chamber as ¼ and the pressure chamber as ¾. However, it would be obvious to one of ordinary skill in the art at the time of invention that designing the pistons in such a manner would be only a matter of obvious engineering depending on the force balance optimization needed, which is within the skills of one of ordinary skill in the art. Discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art. In re Boesch and Slaney, 205 USPQ 215 (CCPA 1980); In re Antonie, 559 F.2d

618, 195 USPQ 6 (CCPA 1977); In re Aller, 42 CCPA 824, 220 F.2d 454, 105 USPQ 233 (1955).

Claims 1-5: Keefer teaches a method of desalting water having a reverse osmosis membrane, a pressure compensating device comprising several pistons as described in the rejection of claim 6 above, wherein during operation, the concentrated salt water pressure exerts pressure on the rear sides of the piston through the hydraulic connection between the pressure chambers (210-212) as in claim 1. Concentrated salt water is introduced in to a discharge chamber of one of the pistons, where simultaneously salt water is conveyed from the intake chamber of the same piston to the membrane, while salt water is introduced in to the intake chamber of a second piston, whereby concentrate water is discharged at a reduced pressure level from the discharge chamber of the second piston as in claim 2 (fig 1,2; col 5 lines 38-67). Piston devices are controlled as in claim 3 (see fig 1,2). Pistons are regulated by intake and discharge valves as in claim 4 (see fig 1, col 5 line 38 – col 6 line 50), and the pressure exerted on a part of the piston is continuous pressure (see fig 1) as in claim 5.

Response to Arguments

Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

This action is made non-final because of the new grounds for rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S Menon whose telephone number is 571-272-1143. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Krishnan Menon
Patent Examiner

Walker
W. L. WALKER
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